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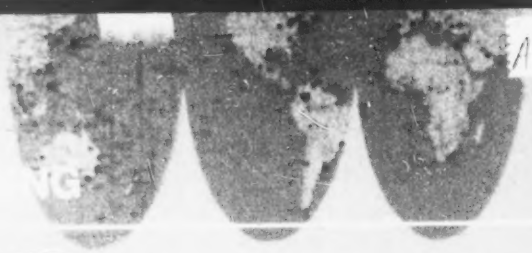

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INSTRUMENTATION '88

Software, hardware trends from the Pittsburgh Conference Page 21

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News of the Week

■ **Chemical industry capital spending fell 4.7% in 1985 from 1984 to $10.7 billion and prospects for an upswing are dim.** Page 4

■ **President Reagan endorses U.S.-Canadian report affirming acid rain is a man-made problem.** Page 5

■ **UN secretary-general accuses Iraq of using chemical weapons against Iranian troops.** Page 5

■ **Small and medium-sized farms will fade out of existence unless the government can provide farmers with needed technology.** Page 5

■ **Chemical Waste Management sues two federal agencies for causing delays in research burn of chemical wastes at sea.** Page 6

Business

Biotechnology industry shows overall gains in fourth quarter, but on an individual basis, company earnings are mixed. **Page 8**

Work-force reductions in the chemical industry cause varied personal results, depending on career goals of those affected. **Page 9**

Government

Fourteen-year impasse over pesticide law broken by new agreement between two groups; Congress starts hearings. **Page 14**

Science

Future of genetically altered bacteria field tests may be complicated by recent blunders made by Advanced Genetic Sciences. **Page 17**

Books

"**Outrageous Misconduct: The Asbestos Industry on Trial**" by Paul Brodeur contains harsh judgment and startling facts. **Page 75**

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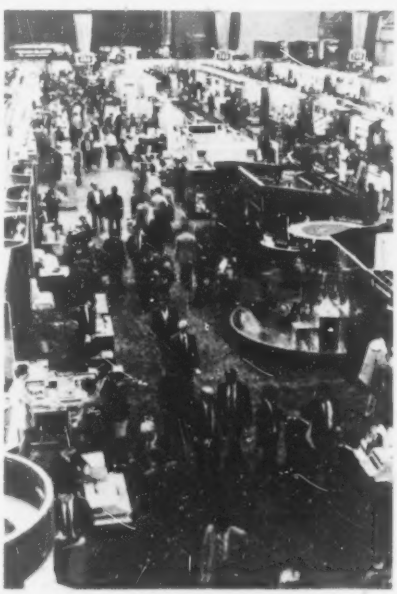

Instrumentation '86

The Pittsburgh Conference, a showcase for developments in analytical chemistry, evidenced the increase in lab automation and effects of biotechnology on instrumentation. **Page 21**

Biotech Earnings Mixed in Fourth Quarter

On an overall basis the fourth quarter of 1985 was a heady one for the biotechnology industry. The initial acquisition agreements for Hybritech (by Eli Lilly) and for Genetic Systems (by Bristol-Myers) put high values on the individual firms' technology. The Food & Drug Administration approved Genentech's genetically engineered human growth hormone, making it the first such product to be developed and brought to market independently by a biotechnology firm. Clinical trial results for interleukin-2 supplied by Cetus were very encouraging.

Still, on an individual basis, fourth-quarter financial results were mixed. At the same time that seven of a group of 15 representative firms were notching double-digit or better increases in revenues compared with fourth-quarter 1984, four firms were registering double-digit revenue declines.

Genentech, South San Francisco, Calif., continued to star. The company's revenues for the quarter jumped 43% to $25.9 million and brought revenues for the full year to $89.6 million. Sales of Protropin growth hormone, which was not introduced until late October, totaled $5.2 million, auguring well for this year. In fact, Linda I. Miller, biotechnology analyst for Paine Webber, estimates that 1986 Protropin sales will reach $35 million and notes that no competing products are expected during the next two years. In addition, Genentech is already receiving royalties on growth hormone being sold by KabiVitrum in a dozen European countries.

Monoclonal Antibodies, Mountain View, Calif., recorded its second consecutive quarterly profit in last year's fourth quarter. Operating revenues rose 84% from the year-earlier quarter. Product sales jumped 116% on the same basis and accounted for 86% of total operating revenues.

For Biogen, Cambridge, Mass., and Geneva, on the other hand, revenues plunged 55% in the fourth quarter and losses widened to $6.5 million from $2.2 million in the year-earlier period. For the year, revenues fell 32% and losses rose to $19.1 million from $13.1 million in 1984. The chief reason for the decline in revenues is a strategic decision to postpone licensing programs for gamma interferon and some other products until positive preliminary and clinical trial results are confirmed. According to chairman James L. Vincent, that would allow Biogen "to strike appropriate arrangements with strong partners that reflect the increase in the value" of the products.

Amgen, Thousand Oaks, Calif., posted a small profit for the second consecutive quarter on a 140% leap in revenues, chiefly because of a 226% increase in research and development fees. Higher contract revenue also helped bring total revenues at California Biotechnology, Mountain View, Calif., up 26% to $2.8 million in fourth-quarter 1985. Similarly, at DNA Plant Technology, Cinnaminson, N.J., an 84% jump in R&D fees lifted total revenues 19% in the quarter.

David Webber, New York

Several biotechnology firms had high earnings growth in fourth quarter

	FOURTH-QUARTER 1985[a]						FULL-YEAR 1985[a]					
	Revenues[b]	Earnings[c]	Change from 1984		Profit margin[d]		Revenues[b]	Earnings[c]	Change from 1984		Profit margin[d]	
	($ millions)		Revenues	Earnings	1985	1984	($ millions)		Revenues	Earnings	1985	1984
Amgen	$ 5.630	$ 0.085	140%	def	1.5%	def	$19.840	$ −1.375	132%	def	def	def
Applied Biosystems	12.388	2.524	48	49%	20.4	20.2%	36.807	7.156	57	82%	19.4%	16.8%
Biogen	4.198	−6.473	−55	def	def	def	21.449	−19.062	−32	def	def	def
California Biotechnology	2.750	−0.236	26	def	def	def	9.583	−0.454	16	def	def	def
Centocor	6.930	0.840	69	318	12.1	4.9	22.355	1.999	74	401	8.9	3.1
Cetus	13.448	0.613	2	505	4.6	0.8	45.897	1.466	−23	53	3.2	1.6
Collaborative Research	2.315	−0.926	9	def	def	def	6.657	−3.179	−15	def	def	def
Damon Biotech	0.735	−2.281	−34	def	def	def	3.304	−10.645	−35	def	def	def
DNA Plant Technology	1.228	−0.034	19	def	def	1.4	4.484	−0.441	30	def	def	def
Genentech	25.870	2.183	43	257	8.4	3.4	89.599	5.608	28	106	6.3	3.9
Genex	2.000	−1.800	−78	def	def	def	16.200	−8.600	−39	def	def	def
Immunex	0.874	−1.093	−39	def	def	def	3.226	−4.422	−7	def	def	def
Molecular Genetics	2.157	−0.769	3	def	def	def	8.251	−2.543	−10	def	def	def
Monoclonal Antibodies	2.507	0.223	84	def	8.9	def	8.424	−0.649	102	def	def	def
Ribi ImmunoChem	0.364	−0.060	126	def	def	def	0.979	−0.478	7	def	def	def

a For three-month or 12-month period ending closest to Dec. 31. b Includes sales, contract research, royalty, and interest revenues. c Excludes extraordinary credits. d After-tax income as percentage of sales. def = deficit.

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